

REMARKS

The above-noted amendments to the claims are intended to more clearly set forth the subject matter which applicant considers to constitute his inventive contribution, as well as to correct minor formalities in the claims in order to comply with all of the requirements of U.S. practice. The amendments to the claims include, for example, a requirement that the first and second dewatering tables be present at substantially the same longitudinal location in the twin-wire press hereof. This limitation is clearly set forth in the specification including at ¶[0010], lines 8-16, as well as in Fig. 1, and at other locations in the specification. Claim 1 has also been amended to require that in accordance with this invention the rear and front edges of one of the dewatering tables are vertically adjusted substantially equally so that the dewatering tables are vertically adjusted along their entire longitudinal extension. This limitation is specifically set forth in ¶¶[0011] and [0015] of the specification, lines 1-9 thereof. Therefore, it is also clear that these amendments do not include any new matter, and their entry is therefore respectfully solicited.

Claim 5 has been rejected as being unpatentable under 35 U.S.C. § 112, second paragraph as being indefinite. Claim 5 is said to recite the limitation "the upper table" without sufficient antecedent basis therefor. However, in view of the above-noted amendments to the claims, clarification of claim 5, and of claim 1 from which it depends, it is believed to be clear that this rejection has now been obviated.

Claims 1, 2, 4, and 7-9 have been rejected as being unpatentable over Santos under 35 U.S.C. § 102(b). The Examiner contends that Santos discloses a twin-wire former comprising upper endless wire 24 and lower endless wire 22 brought together to form a wedge-shaped dewatering space therebetween. The lower wire is said to travel around rolls and over a lower dewatering

table 32 and the upper wire is said to travel around rolls and under upper dewatering table consisting of auto slices 44 and 46 and a saveall 48 for drawn-off water. Downstream of the dewatering space the twin wires are said to be conveyed through a series of S-rolls 52 and press rolls 58 for further dewatering and pressing of the web, and the rolls are said to be arranged in a frame 72. The auto slices and saveall are said to be adjustable by hand wheel 50 for vertical positioning with Fig. 2A showing a link between the second auto slice 46 and the frame.

Thus, Santos is said to disclose a hand wheel reading on the claimed lift arrangement to vertically adjust the first dewatering table and a link between the second auto slice and the frame which is said to read equivalently on the claimed link system joined at one end to the press frame and at the other to the upper section of the first dewatering table. This combination is said to enable the first dewatering table to be moved vertically from and against the second dewatering table. As for claims 2 and 4, the hand wheel is said to be attached to the press frame at one end and to the first dewatering table at the other. As for claim 7, the link arm is said to have one end pivotally arranged in a joint at the first dewatering table and the second end pivotally arranged in a joint at the press frame. As for claim 8, the one side of the twin-wire former shown is said to comprise lifts and links on both sides to provide proper vertical separation of the dewatering tables. Finally, as to claim 9, the first dewatering table is said to be an upper dewatering table and the second dewatering table is said to be a lower dewatering table. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Turning to the Santos reference itself, this patent discloses a papermaking machine, and in particular twin-wire

formers. This patent is generally directed to a forming section in which the stock stream is initially injected onto a lower forming wire which is dewatered through the bottom of the wire. After the stock has been dewatered in this manner, a second or upper wire is then brought into gradual engagement with the lower forming wire, and the two wires are caused to follow a curved path over a forming shoe directing the two wires along an increasing curvature to provide a gradual nip pressure increase thereon. Referring, for example, to Fig. 2A of Santos, the lower forming wire 22 onto which the stock is deposited does not meet upper forming wire 24 until the web has moved considerably downstream of forming table 32 for stock dewatering. The present claims, however, even before the present amendments, require that the first and second dewatering tables themselves form a wedge-shaped dewatering space between the upper and lower wires for initial pressing and dewatering of the fiber suspension entering the wedge-shaped dewatering space. Of course, in Santos, as discussed above, the forming table 32 is not part of the formation of any wedge-shaped dewatering space, particularly since there is no upper wire associated therewith.

Returning again to Fig. 2A of Santos, it is next noted, as the Examiner has referenced, that after the upper and lower wires 24 and 22 meet at the contact line 38, they are led over a forming shoe 40 causing the wire to move along a curved path. The Examiner has referred to dewatering from above by first auto slice 44 and second auto slice 46, which are said to consist of narrow cross machine direction extending slots drawing water from the upper surface of the upper wire and supplying water to a saveall 48. It is unclear precisely how these auto slices are meant to operate, but it is certainly clear that there are no first and second dewatering tables present at substantially the same longitudinal location in the twin-wire press of Santos. Furthermore, the presence of the

blades or shoes 42 causing the wire to move along a curved path in Santos provides a surface which yields to any force applied by these auto slices 44 and 46. This, in turn, guarantees that no wedge-shaped space is formed between the wires, as is also required by the present claims.

The Examiner next refers to the positioning of the first auto slice 44 which may be adjusted by a hand wheel 50 for optimum positioning over the upper wire 24. The present claims require that the press and lift arrangement vertically adjust the dewatering tables. Furthermore, amended claim 1 requires that the entire longitudinal extension of one of the dewatering tables be movable in a direction from and against the other dewatering table by means of this press and lift arrangement. Turning to Santos, however, the discussion of hand wheel 50, which is the only discussion of this element of Santos contained therein, does not appear to present any explanation of what precisely is meant by the alleged "optimum positioning" thereof, and certainly not whether or not it is meant to operate in a vertical or in a horizontal direction, for that matter, or for both. Even more importantly, however, even if this alleged "optimal positioning" could be said to relate to the vertical direction, it only appears to relate to auto slice 44, without any reference to auto slice 46 therein. The Examiner himself, however, contends that auto slices 44 and 46 correspond to applicant's required upper dewatering table. Thus, even if hand wheel 50 could be said to vertically adjust auto slice 44, it would only be adjusting part of the upper dewatering table and not the entire longitudinal extension, as required by the present claims. It is therefore believed to be clear that Santos does not suggest the presently claimed invention, and clearly does not obviate the amended claims herein. Therefore, withdrawal of this rejection is respectfully solicited.

Claims 1-7 and 9 have been rejected as being unpatentable over Sbaschnigg et al. under 35 U.S.C. § 102(b). Sbaschnigg et al. is said to disclose a twin-wire device for dewatering a pulp suspension comprising upper and lower endless wires 4 and 5 brought together to form a wedge-shaped dewatering space therebetween. The lower wire is said to travel over a lower dewatering table 11 and the upper wire over an upper dewatering table 10, and downstream of the wedge-shaped dewatering space the twin wires are said to be conveyed through a series of S-rolls, 21 and 22, and press rolls, 25 and 26, for further dewatering and pressing of the web. The rolls are said to be arranged in a frame, and the upper dewatering table is said to be vertically adjustable relative to the lower dewatering table by means of hydraulic tube 14 supplied at point 15 with pressurized air or fluid. Stop screws 16 are said to provide minimum and maximum adjusting distances between the upper and lower dewatering tables, and a cantilevered support 18 is said to be provided at the top of the dewatering table and the top of the frame. Thus, Sbaschnigg et al. is said to disclose a hydraulic tube reading on the claimed press and lift arrangement for vertically adjusting the first dewatering table, and a cantilevered support reading equivalently on the claimed link system joined at one end to form a press frame and at the other to the upper section of the first dewatering table. This combination is said to enable the first dewatering table to be moved in a vertical direction from and against the second dewatering table.

As for claim 2, the hydraulic tube arrangement is said to correspond to the claimed lift arrangement and is attached to the press frame at one end and to the first dewatering table at the other.

As for claim 3, the lift arrangement is said to be clearly arranged in the vicinity of a front edge of the first dewatering table.

As for claim 4, the hydraulic tube arrangement is said to correspond to the claimed lift arrangement attached to the front projecting section of the press frame at one end and the upper portion of the first dewatering table at the other.

As for claim 5, stop screws 16 are said to read on the claimed stop member arranged on a surface of the press frame in the space between the press frame and the front edge of the upper table opposite the upper table.

As for claim 6, the lift arrangement is said to a hydraulic cylinder (tube).

As for claim 7, the cantilever support is said to have one end pivotally arranged in a joint at the first dewatering table and the other end pivotally arranged in a joint at the press frame.

Finally, as for claim 9, the first dewatering table is said to be an upper dewatering table and the second dewatering table is said to be a lower dewatering table.

This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Before reviewing the details of the Sbaschnigg et al. reference, it should be reiterated that the overall purpose of the present invention is to simplify possible maintenance and exchange of the wire, as well as cleaning of a twin-wire press, without the need for prolonged stoppage of production. This requires reaching the dewatering space between the upper and lower dewatering tables, and more particularly apparatus for vertically adjusting the upper table from its front edge to its rear edge; that is, substantially along the entire longitudinal extension of the table. This is as opposed to lifting one edge

of the table, as is disclosed as being known in the background section of the present application, and which is shown in Sbaschnigg et al. The prior art was simply unable to fulfill these needs, while the present invention is now able to do so.

In accordance with the present invention, this is now accomplished by using a press and lift arrangement 18 for vertically adjusting the dewatering tables and a link system 20 with a joint 22 at one end at the press frame 16 and a joint 24 at the other end of one of the dewatering tables 8, so that the dewatering table 8 "can be moved along its whole longitudinal extension L2 in a vertical direction T from and against the longitudinal direction L1 of the lower dewatering table 10." (See ¶[0010]).

Thus, in accordance with this invention, an end section of the press and lift arrangement 18 can be affixed to the press frame 16, such as the outer end of piston 28, and a corresponding second end of the press and lift arrangement, such as the outer end section of the cylinder portion 30 of the preferred hydraulic cylinder, can be attached to one of the dewatering tables 8. The press frame can also comprise a stop member 36 arranged on the surface 38 of the press frame between the press frame and the front edge of the dewatering table to prevent movement of the dewatering table in the longitudinal direction L1 during vertical adjustment thereof. In effect, the front edge 32 of the dewatering table can slide along the supporting surface of the stop member 36. In addition, the link system 20 hereof comprises a link arm 40 with one end pivotally arranged in joint 24 at the dewatering table 8 and the second end pivotally arranged at joint 22 at the press frame 16.

All of this permits one to vertically adjust the dewatering table 8 "along its whole longitudinal extension L2 by a simultaneous turning of the link arm 20 around joints 24 and 22 of the link system 20 (see arrow P1 in figure). A rear edge

44 of the upper dewatering table 8 is raised substantially equally as much as the front edge 32 (see arrow P2 in figure)." (See ¶[0015].) Furthermore, during vertical movement the front edge 32 can slide against stop member 36 preventing any substantial motion of dewatering table 8 along the longitudinal direction L1 from occurring.

Turning to Sbaschnigg et al., in this reference a wedge is formed between plates 10 and 11 and the upper part 10 of the wedge is said to be adjustable in its height by a pneumatic or hydraulic hose. In particular, compressed air or hydraulic fluid is said to be fed through a connection 15 as provided. Furthermore, a support 18 for cantilevering (i.e., for exchanging the endless wire belts) is said to be provided. Reference is also made to stop screws 16 being used to limit the minimum and maximum adjustment effected by the compressed air operated hydraulic system.

The Examiner contends that these combined parts anticipate the present invention. This could not be further from the truth. Indeed, there is in fact no such combination of these elements in Sbaschnigg et al. in the sense of interaction between them, such as the claimed interaction between the press and lift arrangement and the link system of the present invention. Clearly, there is no suggestion whatsoever that Sbaschnigg et al. provides any apparatus which could conceivably adjust the front edge of the dewatering table substantially equally to that of the rear edge thereof so that the dewatering table is vertically adjusted along its entire longitudinal extension.

Furthermore, with respect to the stop screws 16 in Sbaschnigg et al. and the stop member of claim 5, these are entirely different. In Sbaschnigg et al. the purpose of the stop screws is merely to limit the minimum and maximum adjustment of the wedge height. On the other hand, stop member

36 is intended to prevent substantial motion of the dewatering table 8 along the longitudinal direction L1 of the twin-wire press. These are entirely different matters.

It is therefore respectfully submitted that these claims clearly and patentably distinguish over the Sbaschnigg et al. reference, and withdrawal of this rejection is also respectfully requested.

Claim 8 has been rejected as being unpatentable over Sbaschnigg et al. in view of Eickhoff et al. under 35 U.S.C. § 103(a). In addition to the prior discussion of Sbaschnigg et al., with respect to claim 8, although only one side of the twin-wire press is shown in the figures, it is deemed that the twin-wire press comprises cantilevered supports on both sides of the machine or across the width of the machine to maintain uniform separation of the dewatering tables. Eickhoff et al. is cited to provide additional details of the hydraulic tube, disclosing the identical twin-wire press shown in Fig. 1 of Sbaschnigg et al. Referring to Fig. 2 of Eickhoff et al., the tube is said to extend across the width of the dewatering table, and therefore it is on both sides of the press, and it is deemed that the twin-wire press of Sbaschnigg et al. has the same arrangement. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Applicant reiterates all of his above-noted contentions with respect to the clear deficiencies of the Sbaschnigg et al. reference. Eickhoff et al. clearly does not overcome these deficiencies in Sbaschnigg et al. Indeed, Eickhoff et al. provides no indication whatsoever that one of the dewatering tables is moveable along its entire longitudinal extension from and against the other dewatering table by means of the press and lift arrangement in a manner such that the rear edge of the dewatering table is vertically adjusted

substantially equally as much as the front edge of the dewatering table, such that the dewatering table is vertically adjusted along its entire longitudinal extension. Furthermore, there is no indication of interaction between the press and lift arrangement and the link system as occurs in accordance with the present invention. Thus, even if it were correct to combine the Sbaschnigg et al. and Eickhoff et al. references, the essential features of the presently claimed invention would still not be provided.

It is therefore respectfully submitted that claim 8, as well as all of the other claims in this application, clearly possess the requisite novelty, utility and unobviousness to warrant their immediate allowance, and such action is therefore respectfully solicited. If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone applicant's attorney at (908) 654-5000 in order to overcome any further objections to the allowance of this application.

Finally, if there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

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Respectfully submitted,

By


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